



## **Executive Summary**

# **The National Biennial RCRA Hazardous Waste Report (Based on 1995 Data)**

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## EXECUTIVE SUMMARY

The United States Environmental Protection Agency (EPA), in cooperation with the States,<sup>1</sup> biennially collects information regarding the generation, management, and final disposition of hazardous wastes regulated under the Resource Conservation and Recovery Act of 1976 (RCRA), as amended. The purpose of *The National Biennial RCRA Hazardous Waste Report (Based on 1995 Data)* is to communicate the findings of EPA's 1995 Biennial Reporting System (BRS) data collection efforts to the public, government agencies, and the regulated community.<sup>2</sup> The Report consists of six volumes:

- o Executive Summary: An overview of national hazardous waste generation and management practices;
- o National Analysis: A detailed look at waste handling practices in the EPA Regions, the States, and at the largest facilities in the nation, including quantities of generation, management, shipments and receipts, and interstate imports and exports, as well as counts of generators and managers;
- o State Summary Analysis: A two-page overview of the generation and management practices of individual States;
- o State Detail Analysis: A detailed look at each State's waste handling practices, including overall totals for generation, management, and shipments and receipts, as well as totals for the largest fifty facilities;
- o List of Large Quantity Generators: Identifies every hazardous waste generator in the United States that reported itself to be a large quantity generator in 1995; and
- o List of Treatment, Storage, and Disposal Facilities: Identifies every hazardous waste manager in the United States that reported itself to be a treatment, storage, or disposal facility in 1995.

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<sup>1</sup>The term "State" includes the District of Columbia, Puerto Rico, Guam, the Navajo Nation, the Trust Territories, and the Virgin Islands, in addition to the 50 United States.

<sup>2</sup>Some respondents from the State of Georgia have submitted Confidential Business Information (CBI) pursuant to §40 CFR 260.2(b). While not included in any public BRS database, CBI has been incorporated into the Executive Summary and National Analysis volumes of this Report wherever possible. Where CBI has been omitted from these volumes, a footnote has been provided.

## **RCRA HAZARDOUS WASTE**

Throughout this Report, the term RCRA hazardous waste refers to solid waste assigned a Federal hazardous waste code and regulated by RCRA, either because it was managed in a unit subject to RCRA permitting standards or because it was shipped and subject to RCRA transportation requirements. Individual States may choose to regulate additional wastes not identified as hazardous by EPA. Hazardous wastes assigned only a State hazardous waste code are not included in this Report. Similarly, hazardous wastes managed only in units subject to State permitting standards, or wastes that are managed only in units exempt from RCRA permitting standards, are not included in this Report.

## **RCRA HAZARDOUS WASTE GENERATION**

RCRA hazardous waste generation information is obtained from data reported by RCRA large quantity generators (LQGs). The RCRA hazardous waste generation quantities in this Report are limited to generation quantities that are managed in units subject to RCRA permitting standards. All hazardous waste generation reported to be managed on-site in units exempt from RCRA permitting standards, such as treatment systems permitted by the National Pollutant Discharge Elimination System (NPDES), is excluded from the RCRA generation quantities provided in this Report. Although some off-site shipments of hazardous waste may ultimately be managed in units exempt from RCRA permitting standards, this determination cannot be made from information reported by the generator. Therefore, all hazardous waste generation shipped off-site is included in the RCRA generation quantities provided in this Report.

Hazardous waste generators are included in this Report if they identified themselves as an LQG. It is important to note that the LQGs identified in this Report have been included on the basis of the best available and most current information provided electronically to EPA by the States. Both EPA and the States have made significant efforts to ensure the accuracy of these data. However, the LQG counts may include some generators that, when determining whether they were LQGs, used a lower State-defined threshold for LQGs, counted wastes regulated only by their States, or counted wastes that are exempt from Federal regulation.

A generator was defined as a Federal large quantity generator in 1995 if it met or exceeded any one of the following Federal criteria:

- o The generator generated in any single month 1,000 kg (2,200 pounds or 1.1 tons) or more of RCRA hazardous waste; or
- o The generator generated in any single month, or accumulated at any time, 1 kg (2.2 pounds) of RCRA acute hazardous waste; or
- o The generator generated, or accumulated at any time, more than 100 kg (220 pounds) of spill cleanup material contaminated with RCRA acute hazardous waste.

In 1995, 20,873 LQGs produced 214 million tons of hazardous waste regulated by RCRA. This is a decrease of 3,489 LQGs and a decrease of 44 million tons of waste compared to 1993. As identified in Exhibit 1, the five (5) States whose LQGs generated the largest amount of hazardous waste were Texas (69 million tons), Tennessee (39 million tons), Louisiana (17 million tons), Michigan (13 million tons), and Illinois (13 million tons). Together, the LQGs in these States accounted for 70% of the national total waste generated.

Wastewater generation is identified in BRS by the use of certain form codes, or by waste management in units typically associated with wastewater management (i.e., management in aqueous treatment units, neutralization tanks, underground injection wells, or other wastewater management systems). See Chapter 1, Waste Generation, of the National Analysis, for a list of the form codes and system type codes used to identify wastewater. (A complete list of system type codes can be found in Appendix A of the National Analysis, and a complete list of form codes can be found in Appendix B of the National Analysis.) In 1995, wastewater generation accounted for 95% of the national generation total, while in 1993, wastewater generation accounted for 92% percent of the national generation total.

Overall, total hazardous waste generation decreased from 258 million tons in 1993 to 214 million tons in 1995. Wastewater generation decreased from 237 million tons in 1993 to 202 million tons in 1995, and non-wastewater generation decreased from 22 million tons in 1993 to over 11 million tons in 1995.

In comparing 1995 data with those of earlier Reports, it is important to note that many new wastes were captured by RCRA in 1990 with the promulgation of the Toxicity Characteristic (TC) Rule. The TC Rule added 25 new hazardous waste codes (D018 to D043) and required more stringent analytical tests for the presence of toxic constituents in waste. For 1995, these codes captured, at a minimum, 63 million tons of wastes not regulated before 1990. An additional 42 million tons were described by D018 to D043 when mixed with other waste codes. This suggests that, in 1995, the new toxicity characteristic wastes captured as much as 105 million tons of wastes not regulated before 1990. In contrast, the 1993 data reported as much as 135 million tons of waste not regulated before 1990.

## **RCRA HAZARDOUS WASTE MANAGEMENT**

RCRA hazardous waste management information is obtained from data reported by RCRA treatment, storage, or disposal facilities (TSDs). The RCRA hazardous waste management quantities in this Report are limited to waste that was received or generated by a reporting TSD and managed at the reporting TSD in treatment units subject to RCRA permitting standards. All hazardous wastes either received for transfer shipment or managed at a reporting TSD in units exempt from RCRA permitting standards, such as treatment systems permitted by the NPDES, are excluded from the RCRA management quantities provided in this Report.

Note that the total quantity of RCRA hazardous waste generation does not equal the total quantity of hazardous waste management. Some of the reasons for this variance include: off-year generation (generation that occurred at the end of a non-biennial reporting year, but was shipped off-site for management during a reporting year) and wastes received for management from generators in foreign countries.

In 1995, 1,983 TSDs subject to RCRA permitting standards managed 208 million tons of hazardous waste. This represents a 601 facility decrease in the number of TSDs and a 27 million ton decrease in the amount of waste managed as compared to 1993. As identified in Exhibit 2, the five (5) States whose TSDs managed the largest quantities of hazardous wastes were Texas (75 million tons), Tennessee (39 million tons), Louisiana (18 million tons), Michigan (14 million tons), and California (14 million tons). Together, the TSDs in these States accounted for 77% of the national total waste managed.

Wastewater management is identified in BRS by the use of certain form codes or by waste management in units typically associated with wastewater management (i.e., management in aqueous treatment units, neutralization tanks, underground injection wells, or other wastewater management systems). See Chapter 2, Waste Management, of the National Analysis, for a list of the form codes and system type codes used to identify wastewater. (A complete list of system type codes can be found in Appendix A of the National Analysis, and a complete list of form codes can be found in Appendix B of the National Analysis.) In 1995, wastewater management accounted for 95% of the national management total, while in 1993 wastewater management accounted for 94% of the national management total.

Overall, total hazardous waste management decreased from 235 million tons in 1993 to 208 million tons in 1995. Wastewater management decreased from 220 million tons in 1993 to 198 million tons in 1995, and non-wastewater management decreased from 15 million tons in 1993 to 10 million tons in 1995.

The majority (73%) of the waste managed in the nation was managed in aqueous treatment units. Aqueous treatment units consist of:

Aqueous Organic Treatment Units	117 million tons
Aqueous Organic and Inorganic Treatment Units	28 million tons
Aqueous Inorganic Treatment Units	8 million tons

Land disposal accounted for 12.3% of the national management total. Land disposal units include:

Deepwell/Underground Injection	24 million tons
Landfill	1 million tons
Surface Impoundment	575 thousand tons
Land Treatment/Application/Farming	11 thousand tons

Thermal treatment accounted for 3% of the national management total. Thermal treatment units are:

Incineration	4 million tons
Energy Recovery (Reuse as Fuel)	2 million tons

Recovery operations accounted for 1.8% of the national management total. Recovery operations include:

Fuel Blending	2 million tons
Metals Recovery (for Reuse)	610 thousand tons
Other Recovery	422 thousand tons
Solvents Recovery	356 thousand tons

The remaining management quantities (9.6%) were from other treatment and disposal units:

Other Treatment	18 million tons
Stabilization	1 million tons
Other Disposal (specified in comments)	663 thousand tons
Sludge Treatment	481 thousand tons

## **RCRA HAZARDOUS WASTE SHIPMENTS AND RECEIPTS**

RCRA hazardous waste shipment information is obtained from data reported by both RCRA LQGs and RCRA TSDs. RCRA hazardous waste shipment quantities include all RCRA waste shipments reported by RCRA LQGs and TSDs. Although some off-site shipments may ultimately be managed in treatment units exempt from RCRA permitting standards, this determination cannot be made from information reported by the shipper. Therefore, the shipment quantities provided in this Report may include some waste that is ultimately managed in units exempt from RCRA permitting standards. In some instances, reported waste shipments are actually the movement of wastes across contiguous physical locations that are regulated under different EPA identification numbers. These waste transfers are correctly reported as shipments and cannot be distinguished from transport shipments based on the information reported.



RCRA hazardous waste receipt information is obtained from data reported by RCRA TSDs. RCRA hazardous waste receipt quantities are limited to waste reported by a receiving TSD as either received for transfer or received and managed at the reporting TSD in units subject to RCRA permitting standards. Received wastes managed at the reporting TSD in units exempt from RCRA permitting standards, such as treatment systems permitted by the NPDES, are excluded from receipt quantities provided in this Report.

Limitations in the reported information prevents the direct comparison of shipment and receipt quantities. Hazardous waste shipment quantities may include hazardous waste shipments that are ultimately managed by the receiver in units exempt from RCRA permitting standards. Hazardous waste receipt quantities exclude waste managed in units exempt from RCRA permitting standards. Therefore, hazardous waste shipment quantities can be expected to exceed hazardous waste receipt quantities because exempt waste may be included in shipment quantities and excluded from receipt quantities. Exempt waste reporting will be eliminated beginning with the 1997 biennial reporting cycle. This change should mitigate this discrepancy in future reports.

RCRA hazardous waste exports are waste shipments where the destination is a different State from the State in which the waste was generated. Exports are calculated from information provided by waste shippers. RCRA hazardous waste imports are waste receipts where the waste originated in another State. RCRA hazardous waste imports are calculated from information provided by RCRA TSDs.

In 1995, 20,497 shippers reported shipping a total of 10.7 million tons of hazardous waste. This is a decrease of 3,467 shippers and a decrease of 6.7 million tons of hazardous waste that was shipped as compared to 1993. The States whose shippers reported shipping (in or out of State) the largest quantities of waste were Texas (2.4 million tons), California (1.3 million tons), Ohio (760 thousand tons), New York (650 thousand tons), and Michigan (510 thousand tons). Together the shippers in these States accounted for 53% of the total quantity of hazardous waste shipped nationwide.

Nationwide, of the 10.7 million tons of hazardous waste shipped, 5.3 million tons were **exported** to other States. This is a 1.5 million ton decrease compared with 1993. The States whose shippers exported the largest amount of waste were California (1.1 million tons), Ohio (330 thousand tons), Pennsylvania (280 thousand tons), Texas (240

thousand tons), and Illinois (230 thousand tons). Together the exports in these States accounted for 41% of the national total of hazardous waste exports.

In 1995, 644 RCRA TSDs reported receiving 9.3 million tons of hazardous waste. This is a decrease of 95 TSDs and an increase of 360 thousand tons of hazardous waste compared with 1993. The States whose receivers reported receiving the largest quantities of waste, from both in or out of State, were Michigan (1.2 million tons), New Jersey (1.2 million tons), Texas (970 thousand tons), Ohio (700 thousand tons), and Nevada (650 thousand tons). Together, the receivers in these States accounted for 50% of the national total of waste receipts.

Nationwide, of the 9.3 million tons of hazardous waste receipts, 5.9 million tons were **imported** from other States. This is an increase of 1.7 million tons compared with 1993. The States whose receivers reported importing the largest amount of waste were New Jersey (1.1 million tons), Michigan (820 thousand tons), Nevada (650 thousand tons), Ohio (440 thousand tons), and Texas (280 thousand tons). Together the receivers in these States accounted for 56% of the national total of waste imports.

Exhibit 1 Quantity of RCRA Hazardous Waste Generated and Number of Hazardous Waste Generators, by State, 1995

STATE	HAZARDOUS WASTE QUANTITY			LARGE QUANTITY GENERATORS		
	RANK	TONS GENERATED	PERCENTAGE	RANK	NUMBER	PERCENTAGE
ALABAMA	17	1,409,582	0.7	24	279	1.3
ALASKA	51	3,432	0.0	43	64	0.3
ARIZONA	41	66,865	0.0	29	199	1.0
ARKANSAS	20	992,794	0.5	28	204	1.0
CALIFORNIA	6	11,109,924	5.2	2	1,640	7.9
COLORADO	36	169,554	0.1	32	156	0.7
CONNECTICUT	32	295,928	0.1	18	395	1.9
DELAWARE	44	22,263	0.0	43	64	0.3
DISTRICT OF COLUMBIA	54	764	0.0	49	18	0.1
FLORIDA	31	368,904	0.2	17	418	2.0
GEORGIA	28	459,543	0.2	16	430	2.1
GUAM	55	299	0.0	53	13	0.1
HAWAII	24	592,900	0.3	45	53	0.3
IDAHO	18	1,209,841	0.6	46	52	0.2
ILLINOIS	5	12,756,271	6.0	6	1,156	5.5
INDIANA	14	1,733,026	0.8	10	609	2.9
IOWA	42	39,329	0.0	30	170	0.8
KANSAS	15	1,722,380	0.8	27	210	1.0
KENTUCKY	19	1,149,881	0.5	15	440	2.1
LOUISIANA	3	17,460,601	8.2	21	359	1.7
MAINE	45	19,459	0.0	34	144	0.7
MARYLAND	30	448,707	0.2	25	221	1.1
MASSACHUSETTS	23	610,135	0.3	13	476	2.3
MICHIGAN	4	13,446,389	6.3	9	718	3.4
MINNESOTA	39	77,720	0.0	23	284	1.4
MISSISSIPPI	16	1,579,260	0.7	33	152	0.7
MISSOURI	27	508,963	0.2	22	354	1.7
MONTANA	50	7,668	0.0	46	52	0.2
NAVAJO NATION	56	195	0.0	54	11	0.1
NEBRASKA	37	99,702	0.0	40	86	0.4
NEVADA	48	11,354	0.0	41	80	0.4
NEW HAMPSHIRE	46	15,169	0.0	35	130	0.6
NEW JERSEY	7	10,342,432	4.8	5	1,178	5.6
NEW MEXICO	35	204,494	0.1	48	44	0.2
NEW YORK	11	2,306,232	1.1	1	2,144	10.3
NORTH CAROLINA	33	286,339	0.1	11	587	2.8
NORTH DAKOTA	25	520,226	0.2	52	16	0.1
OHIO	13	1,823,547	0.9	3	1,373	6.6
OKLAHOMA	26	511,918	0.2	31	168	0.8
OREGON	40	68,187	0.0	26	220	1.1
PENNSYLVANIA	9	6,446,730	3.0	7	1,134	5.4
PUERTO RICO	21	900,567	0.4	39	88	0.4
RHODE ISLAND	43	25,428	0.0	37	112	0.5
SOUTH CAROLINA	34	261,015	0.1	19	371	1.8
SOUTH DAKOTA	53	1,119	0.0	50	17	0.1
TENNESSEE	2	38,686,622	18.1	14	467	2.2
TEXAS	1	68,513,285	32.0	4	1,329	6.4
TRUST TERRITORIES	47	15,134	0.0	55	3	0.0
UTAH	29	456,847	0.2	38	101	0.5
VERMONT	49	10,497	0.0	42	66	0.3
VIRGIN ISLANDS	52	3,329	0.0	56	1	0.0
VIRGINIA	38	98,678	0.0	19	371	1.8
WASHINGTON	10	3,088,487	1.4	8	748	3.6
WEST VIRGINIA	8	8,489,828	4.0	36	117	0.6
WISCONSIN	22	664,609	0.3	12	558	2.7
WYOMING	12	1,972,177	0.9	50	17	0.1
CBI DATA	N/A	5,977	N/A	N/A	6	N/A
<b>TOTAL</b>		<b>214,092,505</b>	<b>100.0</b>		<b>20,873</b>	<b>100.0</b>

**Note:** Columns may not sum due to rounding.  
Percentages do not include CBI data.

# *National Biennial RCRA Hazardous Waste Report: Based on 1995 Data*

**Exhibit 2** Quantity of RCRA Hazardous Waste Managed and Number of TSDs, by State, 1995

STATE	HAZARDOUS WASTE QUANTITY <sup>1</sup>			TSD FACILITIES		
	RANK	TONS MANAGED	PERCENTAGE	RANK	NUMBER	PERCENTAGE
ALABAMA	16	1,247,637	0.6	18	42	2.1
ALASKA	35	141,610	0.1	43	9	0.5
ARIZONA	43	11,029	0.0	28	26	1.3
ARKANSAS	18	1,000,465	0.5	36	17	0.9
CALIFORNIA	5	13,631,078	6.5	2	136	6.9
COLORADO	30	191,047	0.1	20	36	1.8
CONNECTICUT	33	154,729	0.1	17	43	2.2
DELAWARE	46	2,004	0.0	48	5	0.3
DISTRICT OF COLUMBIA	54	0	0.0	53	1	0.1
FLORIDA	32	161,763	0.1	11	56	2.8
GEORGIA	26	348,359	0.2	13	51	2.6
GUAM	53	0	0.0	51	2	0.1
HAWAII	49	476	0.0	47	6	0.3
IDAHO	17	1,240,434	0.6	41	10	0.5
ILLINOIS	9	3,274,425	1.6	4	107	5.4
INDIANA	14	1,486,318	0.7	5	76	3.8
IOWA	42	12,061	0.0	27	28	1.4
KANSAS	11	1,761,658	0.8	14	50	2.5
KENTUCKY	37	123,709	0.1	19	40	2.0
LOUISIANA	3	17,633,877	8.5	15	49	2.5
MAINE	47	1,780	0.0	35	18	0.9
MARYLAND	27	201,744	0.1	31	22	1.1
MASSACHUSETTS	44	7,288	0.0	21	34	1.7
MICHIGAN	4	14,381,917	6.9	3	112	5.7
MINNESOTA	34	153,657	0.1	25	29	1.5
MISSISSIPPI	15	1,446,886	0.7	34	19	1.0
MISSOURI	25	437,962	0.2	10	68	3.4
MONTANA	48	1,368	0.0	43	9	0.5
NAVAJO NATION	56	0	0.0	56	0	0.0
NEBRASKA	38	113,395	0.1	38	14	0.7
NEVADA	20	650,032	0.3	37	15	0.8
NEW HAMPSHIRE	54	0	0.0	53	1	0.1
NEW JERSEY	6	10,979,933	5.3	11	56	2.8
NEW MEXICO	31	188,444	0.1	38	14	0.7
NEW YORK	23	509,446	0.2	7	70	3.5
NORTH CAROLINA	28	199,439	0.1	8	69	3.5
NORTH DAKOTA	22	518,043	0.2	45	7	0.4
OHIO	12	1,754,399	0.8	6	74	3.7
OKLAHOMA	21	563,381	0.3	22	31	1.6
OREGON	36	137,302	0.1	40	11	0.6
PENNSYLVANIA	8	6,314,049	3.0	8	69	3.5
PUERTO RICO	19	836,505	0.4	33	20	1.0
RHODE ISLAND	40	29,806	0.0	41	10	0.5
SOUTH CAROLINA	29	191,309	0.1	28	26	1.3
SOUTH DAKOTA	51	1	0.0	50	3	0.2
TENNESSEE	2	38,675,221	18.6	25	29	1.5
TEXAS	1	75,074,857	36.0	1	192	9.7
TRUST TERRITORIES	45	2,980	0.0	51	2	0.1
UTAH	24	461,970	0.2	32	21	1.1
VERMONT	52	0	0.0	45	7	0.4
VIRGIN ISLANDS	50	20	0.0	53	1	0.1
VIRGINIA	39	51,995	0.0	22	31	1.6
WASHINGTON	13	1,577,079	0.8	16	47	2.4
WEST VIRGINIA	7	8,395,116	4.0	28	26	1.3
WISCONSIN	41	17,492	0.0	24	30	1.5
WYOMING	10	1,970,452	0.9	48	5	0.3
CBI DATA	N/A	4,088	N/A	N/A	1	N/A
<b>TOTAL</b>		<b>208,272,032</b>	<b>100.0</b>		<b>1,983</b>	<b>100.0</b>

<sup>1</sup>Quantity managed only by storage is excluded.

**Note:** Columns may not sum due to rounding.  
Percentages do not include CBI data.

## **WHERE TO OBTAIN ADDITIONAL INFORMATION**

All volumes of *The National Biennial RCRA Hazardous Waste Report* (Based on 1995 Data), as well as the 1995 Biennial Reporting System (BRS) database, can be obtained via the Internet at: "<http://www.epa.gov/epaoswer/hazwaste/data/>" or they can be purchased from the National Technical Information Service (NTIS) at (703) 487-4650.

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